

Claims

1. A piezoelectric actuator module, including at least one piezoelectric component (6), one actuator foot (5), and one actuator head (7) which head cooperates with a component to be actuated by the piezoelectric component (6), and the actuator module (2; 20; 30) is surrounded by a bush (9) extending in the axial direction, characterized in that the actuator foot (7) is adjoined by a diaphragm (10; 21; 31; 41), which extends essentially in the radial direction, is joined to the bush (9), and has a cross section with different radii of curvature.
2. The piezoelectric actuator module of claim 1, characterized in that the diaphragm (10; 21; 31; 41) is welded to the actuator foot (7).
3. The piezoelectric actuator module of claim 1 or 2, characterized in that the diaphragm (10; 21; 41) is welded to the bush (9).
4. The piezoelectric actuator module of claim 1 or 2, characterized in that the diaphragm (31) is manufactured integrally with the bush (9).
5. The piezoelectric actuator module of one of claims 1 through 4, characterized in that the diaphragm (21) has a curved cross section.
6. The piezoelectric actuator module of one of claims 1 through 5, characterized in that the diaphragm (10; 21; 31; 41) has a thickness of between approximately 70 μm and 200 μm .

7. The piezoelectric actuator module of one of claims 1 through 7, characterized by its use as a triggering unit of a fuel injection valve (1), in particular a common-rail injection valve, of a motor vehicle.
8. A method for installing a piezoelectric actuator module, which includes at least one piezoelectric component (6), one actuator foot (5) and one actuator head (7), which head cooperates with a component to be actuated by the piezoelectric component (6), and the actuator module (2; 20; 30; 40) is surrounded by a bush (9) extending in the axial direction, characterized in that the bush is closed on its face end, on the side toward the actuator head (7), by means of a diaphragm (10; 21; 31; 41), which extends essentially in the radial direction.
9. The method of claim 8, characterized in that the diaphragm (41) and the actuator head (7) are welded together in load- free fashion.
10. The method of claim 9, characterized in that the actuator head (7) welded to the diaphragm (41) is introduced into the bush (9) and subjected to a preload in the direction of the piezoelectric component (6).
11. The method of claim 10, characterized in that with the actuator foot (7) preloaded, the diaphragm (41) is welded to the bush (9).